UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,697	01/12/2001	Robert H. Halstead, JR.	2682.2011-003	2648

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EXAMINER
TANG, KUO LIANG J

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/759,697	HALSTEAD, ET AL.
Office Action Summary	Examiner	Art Unit
	Kuo-Liang J Tang	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *2/2/04*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to the amendment filed on 4/29/2004.

The priority date for this application is 11/01/1999.

Claims 1-28 are pending and have been examined.

Claims 1-7, 10-16 and 18-28 remain rejected under 35 U.S.C. 103(a) as being

unpatentable over McLennan, Michael J., Object-oriented Programming with [incr Tcl] Building

Mega-Widgets with [incr Tk]" < hlp://www.ing.iac.es/-docs/exteoal/tcl/itcl/tutorials/itclitk-

a4.pdf accessed January 12, 2004 (Art of Record (AV), hereinafter McLennan) in view of TK

Library Procedures, "TK-configure Widget Manual Page,"

<http://www.tcl.tîman/tcl8.z.3/TkLib/conGaWidz.htm> (accessed January 12, 2004), (art of

record (AR2), hereinafter TKLib).

Claims 8-9 and 17 remain rejected under 35 U.S.C. 103(a) as being unpatentable over

McLennan in view of TKLib further in view of of Hostetter et al., "Curl: A Gentle Slope

Language for the Web," World Wide Web Journal, **Spring, 1997**, (art of record, hereinafter

Hostetter.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-7, 10-16 and 18-28 are rejected under 35 U.S.C. 103(a) as being unpatentable

over McLennan, Michael J., Object-oriented Programming with [incr Tcl] Building Mega-

Widgets with [incr Tk]" < hlp://www.ing.iac.es/-docs/exteoal/tcl/itcl/tutorials/itclitk-a4.pdf

accessed January 12, 2004 (Art of Record (AV), hereinafter McLennan) in view of TK Library

Procedures, "TK-configure Widget Manual Page,"

<http://www.tcl.tîman/tcl8.z.3/TkLib/conGaWidz.htm> (accessed January 12, 2004), (art of

record (AR2), hereinafter TKLib).

As Per Claim 1, McLennan discloses a method of processing data comprising:

"defining a class (E.g. see page 86, Figure 2-11 Fileview mega-widget and associated

text) which supports an option data structure (E.g. see page 87, lines 24-30, "usual" option-

handling code for scrobars) having, in instances of the class, references to option values (E.g.

see page 87, lines 25-26, options -background, -troughcolor) without preallocation of memory

space for the full option values (E.g. see page 87, line 27, options -background, -troughcolor, -

orient and –command ...), the option data structure including a type description of the option

values;(E.g. see page 76, Figure 2-4 and page 86 – 87, Example 2-1 and associated text)" and

"during compilation, using the type description in the option data structure to process an

operation on the option value." (E.g. see page 76, Figure 2-4, page 79, Figure 2-6 and associated

text).

McLennan does not explicitly disclose his teaching type description of the option values

and during compilation, using the type description in the option data structure to process an

operation on the option value. However, TKLib teaches "type description of the option values

(E.g. see page 1) and during compilation, using the type description in the option data structure
to process an operation on the option value" (E.g. see page 4, line 14 to page 6, line 31).
Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention
was made to incorporate the teaching of TKLib into the system of McLennan , to comprise a
library (Tk_configureWidget). The modification would have been obvious because one of
ordinary skill in the art would have been motivated to create a new type of mega-widget by
simply drive a new [incr tcl] class from one of the existing [incr tk] base class.

Further, Applicant admitted in the specification background (page 1, lines 12-14) that
"An alternative data structtlre which has, for example, been supported in the [incr Tk] language
allows values to be stored in strings or arrays as options associated with an instance object". This
also supports an option data structure having, in instances of the class, references to option
values without preallocation of memory space for the full option values.

As Per Claim 2, the rejection of claim 1 is incorporated respectively and further
McLennan discloses
- the option data structure identifies change handler code that is executed when an option
value changes. (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 1-3).

As Per Claim 3, the rejection of claim 2 is incorporated and further McLennan discloses
"change handler code for one option is defined in different classes within a class
inheritance hierarchy and the change handler code from each class is executed when the option
value changes." (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 4-13).

As Per Claim 4, the rejection of claim 1 is incorporated and further McLennan discloses

"the option data structure includes a default value (E.g. see page 83, lines 12-16), the method further comprising, in a get operation to an instance of the class, if an option value which applies to the instance has been set, getting the set option value and, if no value which applies has been set, getting the default value for the class." (E.g. see page 79, lines 3-9).

As Per Claim 5, the rejection of claim 1 is incorporated and further McLennan does not explicitly disclose encoding option operation. However, Hostetter teaches

"defining a first class with a first option data structure of a first form which supports, in instances of the class, references to option values without preallocation of memory space for the full option values;" (E.g. see page 75, Figure 2-3 and associated text, e.g. Spinint class).

"defining a second class with a second option data structure of a second form which supports, in instances of the second class, references to option values without preallocation of memory space for the full option values, the second form being different from the first form;" (E.g. see page 75, Figure 2-3 and associated text, e.g. itk::Widget base class) and

"during compilation, encoding an option operation as a method call to an object of the first class and to an object of the second class without regard to the form of the option data structure supported by the class." (E.g. see page 75, Figure 2-3 and page 76, Figure 2-4 and associated text).

As Per Claim 6, the rejection of claim 1 is incorporated and further McLennan discloses

"notifying objects of a change in an option value through a change handler identified by an option binding, the option binding being located by first searching a mapping data structure for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the mapping to the option binding and storing the mapping in the mapping data structure." (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 1-3).

As Per Claim 7, the rejection of claim 1 is incorporated and further McLennan discloses

"the option data structure comprises a lirlked list of option items having option values." (E.g. see page 79, Figure 2-6 itk_option and associated text).

As Per Claim 10, the rejection of claim 1 is incorporated respectively and further McLennan discloses :

"the class which supports the option data structure includes defined fields to support values in preallocated memory space." (Again, see as noted above of Claim 1).

As Per Claim 11, the rejection of claim 1 is incorporated and further the combination of McLennan and TKLib discloses :

"the type description is used to check the declared type of a value to be set in a set operation." (E.g. see TKLib, page 4, line 14 to page 6, line 31).

As Per Claim 12, the rejection of claim 1 is incorporated and further the combination of McLennan and TKLib discloses :

"the type description is used to check the legality of an operation to be performed on a value obtained in a get operation." (E.g. see TKLib, page 4, line 14 to page 6, line 31).

Claim 13 is the system claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claims 14-16, the rejection of claim 13 are incorporated and are rejected under the same reason set forth in connection of the rejection of claim 2-4.

As Per Claim 18, the rejection of claim 13 is incorporated respectively and further McLennan discloses :
"change handlers which notify objects of a change in an option value and a mapping data structure which maps an option name and class to an option binding which identifies a change handler." (E.g. see page 81, Figure 2-8 and associated text, e.g. page 81, lines 1-3).

As Per Claims 19-25, the rejection of claim 13 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 7-13.

Per Claim 26 is the computer-readable medium claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claim 27, the rejection of claim 26 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 19.

Claim 28 is the computer data signal claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

3.   Claims 8-9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan in view of TKLib as applied in Claim 1 and 14 above, and further in view of Hostetter et al., "Curl: A Gentle Slope Language for the Web," World Wide Web Journal, **Spring, 1997**, (art of record, hereinafter Hostetter.).

As Per Claim 8, the rejection of claim 1 is incorporated and further the combination of McLennan and TKLib do not explicitly disclose a nonlocal option value applies to other objects in a nonlocal option hierarchy. However, Hostetter teaches a nonlocal option value applies to other objects in a nonlocal option hierarchy. (E.g. see Section3, Page 4, Lines 1-2). Color is a nonlocal option because all text in a given document is usually the same color. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan and TKLib, to comprise a nonlocal option value applies to other objects in a nonlocal option hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated to implement properties in a dynamically bound environment using a deep binding mechanism.

As Per Claim 9, the rejection of claim 8 is incorporated and further further the combination of McLennan and TKLib do not explicitly disclose the nonlocal option hierarchy is a graphical hierarchy. However, Hostetter teaches "the nonlocal option hierarchy is a graphical hierarchy." (E.g. see Section3, Page 4, Lines 1-2 and Section4.3, Page 9, Lines 34-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan and TKLib, to comprise the nonlocal option hierarchy is a graphical hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated to represent a graphic image as a hierarchical tree of Graphic objects (Leaves of the tree are primitive Graphic objects which know how to draw themselves, usually after looking up the values of various properties).

As Per Claim 17, the rejection of claim 13 is incorporated and further McLennan does not explicitly disclose plural classes having data structures of different forms. However, Hostetter teaches plural classes having data structures of different forms, and a compiler which encodes an option operation as a method call to an instance object of one of the classes without regard to the form of the option data structure supported by the class. (see Page 4, Figure 2, item hbox and item vbox;) and (see Page 4, Figure 2, item hbox and item vbox; and Page 3, Line 20-24, "Since the values for color and quantity are Dynamic objects, the last line of the display changes automatically as the user manipulates the color and quantity controls. A Dynamic object incorporates a simple mechanism for propagating changes in its value to other dynamic objects that depend on first object's value. More sophisticated propagation rules could be supplied by the

user by creating a new class of objects derived from Dynamic objects that have a different "propagate" method."), and (see Page 9, Lines 20-22, "Hboxes and vboxes. These are one-dimensional formatters that create simple horizontal or vertical arrangements of their children, lining up their baselines or margins. As in TeX, the relative allocation of white space is controlled by the elasticity of any glue objects that have been added as children."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan , to comprise plural classes having data structures of different forms. The modification would have been obvious because one of ordinary skill in the art would have been motivated to display changes automatically as the user manipulates the color and quantity controls.

Conclusion

4.   Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 02/02/2004 documents (AV and AR2) prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Correspondence Information

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kuo-Liang J Tang whose telephone number is 703-305-4866.

The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q Dam can be reached on 703-305-4552.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306.

TUAN DAM
SUPERVISORY PATENT EXAMINER

Kuo-Liang J. Tang

Software Engineer Patent Examiner